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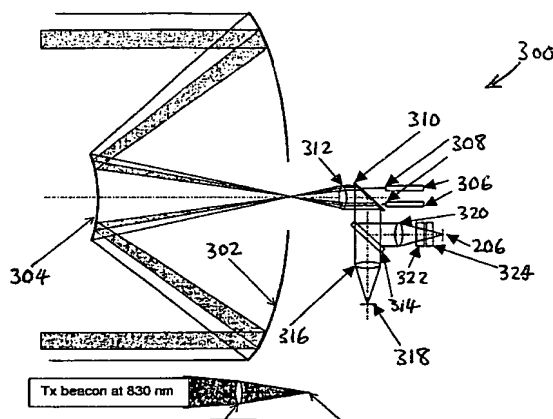
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(54) Title: **FREE SPACE OPTICAL COMMUNICATIONS**



(57) Abstract: An optical communications terminal, comprising: an optical telescope (e.g. a dual mirror Ritchie-Chretien telescope); a transmitter unit including at least one transmitter coupled to source of optical signals; a receiver unit for receiving optical signals; an optical system defining a transmit optical path between the optical telescope and the transmitter unit, and defining a receive optical path between the optical telescope and the receiver unit; and a beacon detector for detecting beacon optical signals received at the optical telescope; characterised in that a beacon optical path between the optical telescope and the beacon detector comprises at least a portion of said transmit optical path and/or said receive optical path. In one embodiment, the transmitter unit, receiver unit and beacon detector are disposed at or adjacent the focal plane of the optical telescope, providing a compact arrangement suitable for usage in diverse environments (e.g. aircraft- or satellite-borne, as well as ground-based). In another aspect of the invention there is disclosed an optical communications terminal in which the transmitter unit comprises a plurality of transmitters, each transmitter being coupled to a respective source of optical signals. An optical free space communications system comprising two such coupled terminals is also disclosed.

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